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FEDERAL-STATE-PRIVATE
COOPERATIVE SNOW SURVEYS

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WATER SUPPLY OUTLOOK FOR OREGON

Prepared by

U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

OREGON STATE UNIVERSITY

and

STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above
in cooperation with other Federal, State and private organizations.

AS OF
FEB. 1, 1971

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters of key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80202
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 970, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84111
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



WATER SUPPLY OUTLOOK FOR OREGON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued

FEBRUARY 8, 1971

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ADMINISTRATOR
SOIL CONSERVATION SERVICE
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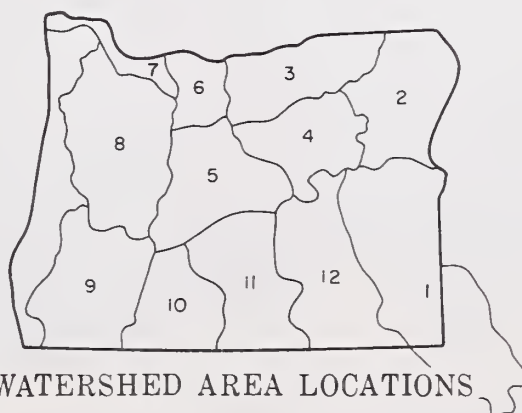
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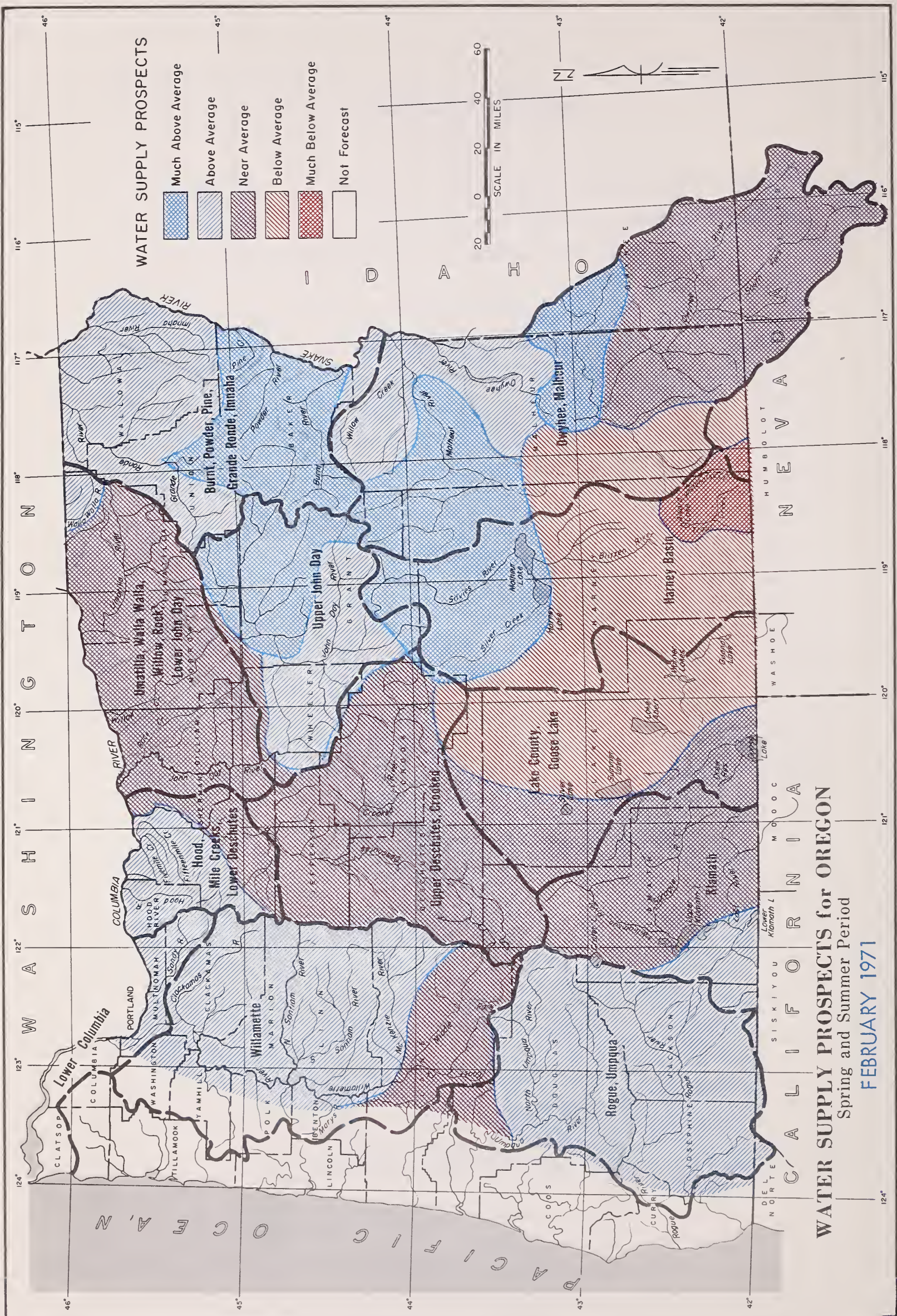
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WATERSHED AREA LOCATIONS



WATER SUPPLY OUTLOOK for OREGON

FEBRUARY 1, 1971

The water supply outlook for Oregon continues to be excellent. The snowpack is mostly above to much above average. Stored water supplies in the state are excellent and 140 percent of average.

SNOW COVER

The snow cover is mostly above average. It ranges from 130 percent to 180 percent in the Cascades. The snowpack in Eastern Oregon varies from 140 percent in the Wallowa Mountains and 135 percent on the John Day River up to 170 percent in the Elkhorns near Baker. The warm rains during the latter half of January melted much of the snow in the lower elevation sagebrush country of Malheur, Harney, and Lake Counties, where the remaining snow cover is near average or less.

PRECIPITATION

Much of the state, including the mountainous areas, received above average rainfall during the month. Amounts were highest on the Deschutes River at 157 percent and Northeastern Oregon at 144 percent of average, and ranged on down to near normal in the Blue Mountains near Pendelton and to 80 percent of average in Harney and Lake Counties.

SOIL MOISTURE

Due to the heavy rains received from November to date, soils are 10 to 20 percent wetter than usual and streams should respond well to any precipitation received during the next several months.

RESERVOIR STORAGE

The already excellent stored water supplies were further improved from the high rainfall and resultant heavy streamflow in January. Twenty-five principal reservoirs in the state contain 2,379,000 acre feet of water or 140 percent of the 1953-67 average. A few reservoirs filled to capacity during the month and had to spill.

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STREAMFLOW

Flow in streams and rivers was 2 to 2 1/2 times the normal during the month. A few areas produced heavier flows, such as, the inflow into Owyhee reservoir which was seven and one-half times the January average. Some of the runoff was from melting snow which normally would have contributed to later streamflow in March and April. Streamflow forecasts have been adjusted downward to account for this factor.

Prospective April-September streamflow for some representative streams are as follows:

STREAM	FORECAST As % of 1953-67 Average
Owyhee net Inflow	119
Malheur near Drewsey	138
Deschutes near Benham Falls	100
Grande Ronde near La Grande	110
Willamette, Mid. Fk. nr. Oakridge	112
Upper Klamath Lake net Inflow	101
Rogue at Raygold	104
Silvies near Burns	138
John Day, Mid. Fk. near Ritter	134

This report contains data furnished by the Oregon State Engineer, U. S. Geological Survey, NOAA National Weather Service, and other cooperators.





WATER SUPPLY OUTLOOK
OWYHEE, MALHEUR
WATERSHEDS
OREGON

as of

FEBRUARY 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY OREGON STATE ENGINEER

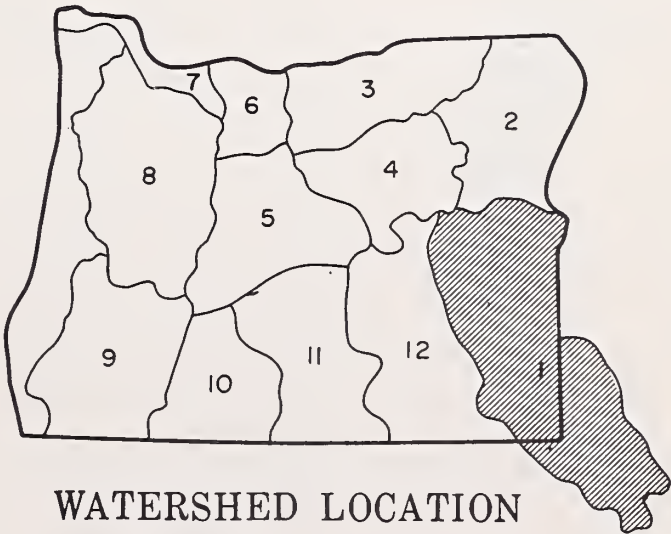
GENERAL OUTLOOK

EXCELLENT WATER SUPPLIES WILL BE AVAILABLE IN MALHEUR COUNTY TO WATER USERS HAVING ACCESS TO STORED WATER. DUE TO RAINFALL AND WARM TEMPERATURES STREAMS WHICH NORMALLY RUN OFF DURING THE NEXT THREE MONTHS FLOWED HEAVILY IN JANUARY. USERS DEPENDENT ON THIS LATER RUNOFF WILL OBSERVE SOME SHORTAGES. THE SNOWPACK IS PRACTICALLY ALL GONE NOW EXCEPT AT THE HIGHEST ELEVATIONS WHERE IT IS NORMAL OR ABOVE. WATERSHED SOILS ARE SATURATED AND STREAMS SHOULD RESPOND WELL TO ANY PRECIPITATION THAT COMES FROM NOW ON. RESERVOIRS STORED MUCH OF THE JANUARY RUNOFF AND ARE ALMOST TWICE AS FULL AS USUAL.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Boulder Creek	Average	Fair
Bully Creek	Average	Fair
Cow Creek	Average	Fair
Jordan Creek	Excellent	Average
Jordan Valley Irrig. Dist.	Excellent	Excellent
McDermitt Creek	Fair	Fair
Oregon Canyon Creek	Fair	Fair
Owyhee Project	Excellent	Excellent
Succor Creek	Average	Fair
Tennile Creek	Fair	Fair
Vale-Oregon Irrig. Dist.	Excellent	Excellent
Warm Springs Irrig. Dist.	Excellent	Excellent
Willow Creek (Reservoired)	Excellent	Average



STREAMFLOW FORECASTS

STREAMFLOW FORECASTS	THIS YEAR			PAST RECORD	
BASIN, STREAM and/or FORECAST POINT	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Jordan Creek above Lone Tree Creek	112	132	April-July	b	85 ^m
	116	136	April-Sept.	b	85 ^m
Malheur near Drewsey	154	139	Feb.-July	b	111
	99	138	April-Sept.	b	72
Malheur, North Fork at Beulah ^d	105	138	Feb.-July	b	76
	82	137	April-Sept.	b	60
Owyhee Reservoir net Inflow ^k	499	114	Feb.-July	418	438
	357	119	April-Sept.	306	300
Bully Creek at Warm Springs	12.0	105	March-May	b	11.4

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value ⁱ
Owyhee near Rome	1000.	May 26	May 24
	250	June 24	June 20

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Agency Valley	60.0	33.8	32.6	23.3
Antelope	55.0	b	15.0	5.7
Bully Creek	30.0	21.3	23.5	14.5
Owyhee	715.0	699.5	608.0	359.3
Warm Springs	191.0	136.1	135.3	74.6

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
Jordan Creek	1	119	113
Malheur River	2	114	114
Owyhee River	4	114	100

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Jordan Creek	4	97	160
Malheur River	5	96	156
Owyhee River	5	65	100

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (l) Ground measurement. (m) Average for 5 or more years in base period.



WATER SUPPLY OUTLOOK
BURNT, POWDER, PINE,
GRANDE RONDE,
IMNAHA WATERSHEDS
OREGON

as of

FEBRUARY 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

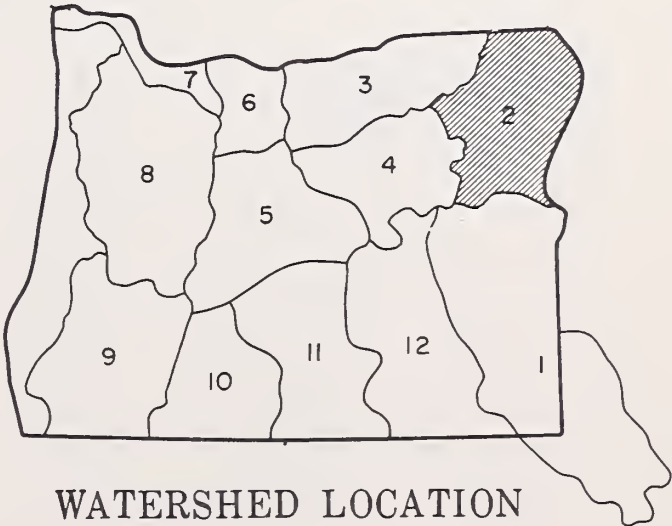
GENERAL OUTLOOK

EXCELLENT WATER SUPPLIES ARE FORECAST FOR ALL WATER USERS IN THE AREA EXCEPT ON THE UPPER GRANDE RONDE BASIN WHERE AVERAGE SUPPLIES WILL BE AVAILABLE. THE SNOWPACK IS 140 TO 170 PERCENT OF AVERAGE IN THE WALLOWA MOUNTAINS, THE ELKHORNS, AND ON THE BURNT RIVER. IT IS NEAR NORMAL ABOVE LA GRANDE. STREAMFLOW WAS HEAVY ON LOWER ELEVATION STREAMS DURING JANUARY AND RESERVOIRS ARE NOW STORING ABOVE AVERAGE AMOUNTS. WATERSHED SOILS ARE WET AND STREAMS SHOULD RESPOND WELL TO ANY SUBSEQUENT PRECIPITATION. JANUARY FLOW ON THE GRANDE RONDE AT LA GRANDE WAS 246 PERCENT OF AVERAGE.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Alder Slope	Excellent	Excellent
Baker Valley	Excellent	Excellent
Big Creek	Excellent	Excellent
Clover Cr. (nr. N. Powder)	Excellent	Excellent
Cove	Excellent	Excellent
Durkee	Excellent	Average
Eagle Valley	Excellent	Excellent
Elgin	Average	Average
Enterprise-Joseph	Excellent	Excellent
Hereford-Bridgeport	Excellent	Excellent
Imnaha River	Excellent	Excellent
La Grande-Island	Average	Average
Lostine-Wallowa	Excellent	Excellent
No. Powder River-Wolf Cr.	Excellent	Excellent
Pine Valley	Excellent	Excellent
Powder River-Elk Creek	Excellent	Excellent
Summerville	Average	Average
Sumpter Valley	Excellent	Excellent
Union-Hot Lake	Excellent	Excellent
Unity	Excellent	Excellent



STREAMFLOW FORECASTS

STREAMFLOW FORECASTS	THIS YEAR			PAST RECORD	
BASIN, STREAM and/or FORECAST POINT	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average (1)
Bear near Wallowa	78	118	April-Sept.	b	66
Burnt near Hereford ^d	65	135	Feb.-July	b	48
	50	142	April-Sept.	b	35
Catherine near Union	85	133	April-Sept.	75	64 ^m
Eagle Creek above Skull Creek	218	130	April-July	195	168 ^m
	237	130	April-Sept.	211	182 ^m
Grande Ronde at La Grande	239	113	March-Sept.	185	211
	192	110	April-Sept.	157	175
Hurricane near Joseph	58	123	April-Sept.	54	47
Imnaha at Imnaha	364	119	April-Sept.	295	306
Lostine near Lostine	146	117	April-Sept.	144	125
Powder near Baker	82	137	April-July	b	60
	86	139	April-Sept.	b	62
Wallowa, East Fork near Joseph ^d	14.6	109	Feb.-Sept.	b	13.4
	12.9	108	April-Sept.	b	12.0

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average (i)
Burnt, Powder	2	101	127
Grande Ronde, Catherine Cr. Imnaha River	2	98	118

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average (i)
Thief Valley	17.4	b	17.4	- -
Unity	25.2	14.9	12.7	8.8
Wallowa Lake	37.5	19.6	12.2	21.6
Phillips Lake	73.5	59.7	31.1	- -

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average (i)
Burnt River	3	99	155
Grande Ronde River above La Grande	4	158	94
Powder River	5	124	170
Wallowa, Imnaha Catherine Creek	6	118	140

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.



WATER SUPPLY OUTLOOK UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS OREGON

as of

FEBRUARY 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

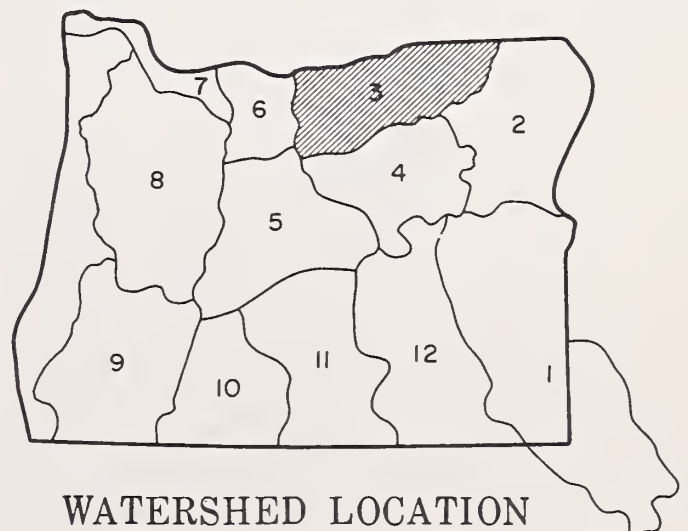
GENERAL OUTLOOK

WATER USERS IN UMATILLA, MORROW, AND GILLIAM COUNTIES WILL HAVE NEAR AVERAGE WATER SUPPLIES THIS COMING SPRING AND SUMMER. THE SNOWPACK RANGES FROM 90 PERCENT ON MCKAY CREEK ON UP TO 132 PERCENT ON THE WALLA WALLA DRAINAGES. STREAMFLOW WAS HEAVY DURING THE MONTH AS THE UMATILLA FLOWED 180 PERCENT OF AVERAGE. PRECIPITATION, MOSTLY IN THE FORM OF RAIN, WAS NEAR AVERAGE. BOTH MCKAY RESERVOIR AND COLD SPRINGS CONTAIN ABOVE AVERAGE AMOUNTS OF WATER FOR THIS TIME OF YEAR. MCKAY WILL MOST LIKELY NOT FILL TO CAPACITY THIS SPRING, HOWEVER, COLD SPRINGS RESERVOIR WILL.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Walla Walla River, No. Fk.	Excellent	Average
Walla Walla River, So. Fk.	Excellent	Average
Walla Walla River, Main	Excellent	Average
Walla Walla River, Little	Excellent	Average
Couse Creek	Excellent	Average
Dry Creek	Average	Average
Pine Creek	Average	Average
Umatilla River, Main	Average	Average
Wildhorse Creek	Average	Average
Umatilla R. (Cold Springs Reservoir)	Excellent	Average
Umatilla River (McKay Res.)	Average	Average
McKay Creek	Average	Fair
Birch Creek	Average	Fair
Butter Creek	Average	Fair
Willow Creek	Average	Fair
Rhea Creek	Average	Fair
Rock Creek (John Day tributary)	Average	Fair



WATERSHED LOCATION

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Birch Creek at Rieth	31	107	Feb.-July	b	29
	19	103	April-Sept.	b	18.4
Butter Creek near Pine City	12.0	97	March-July	b	12.4
McKay near Pilot Rock	47	93	Feb.-July	b	51
	26	93	April-Sept.	b	28
Umatilla near Gibbon	108	109	March-Sept.	b	99
	86	108	April-Sept.	b	80
Umatilla at Pendleton	207	100	March-Sept.	b	208
Walla Walla, North Fork near Milton	25	125	March-Sept.	b	20
	19	119	April-Sept.	b	16.0
Walla Walla, South Fork near Milton	88	111	March-Sept.	b	79
	78	116	April-Sept.	b	67

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value ⁱ
Umatilla at Pendleton	550	June 24	June 22

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Cold Springs	50.0	35.6	22.0	29.9
McKay	73.8	35.0	53.8	26.3

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ⁱ
Umatilla, Walla Walla McKay Creek	3	97	103

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
McKay Creek	3	128	91
Umatilla River	3	112	108
Walla Walla River	2	112	132

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.



WATER SUPPLY OUTLOOK UPPER JOHN DAY WATERSHEDS OREGON

as of
FEBRUARY 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

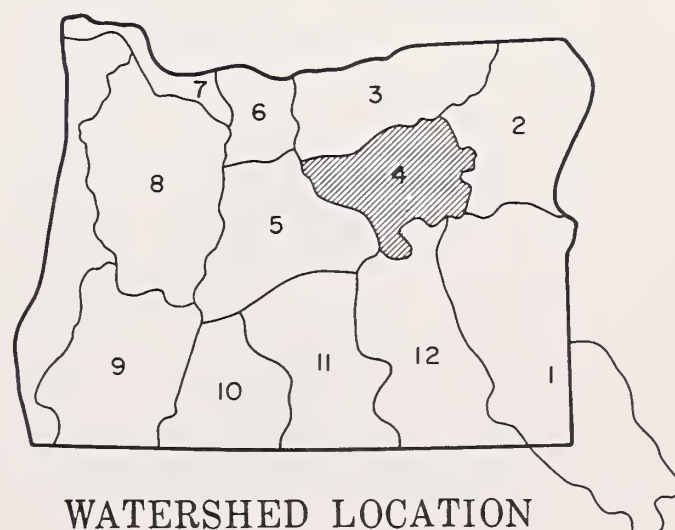
GENERAL OUTLOOK

EXCELLENT WATER SUPPLIES ARE FORECAST FOR WATER USERS IN THE JOHN DAY BASIN. THE SNOWPACK IS ABOUT 140 PERCENT OF AVERAGE WITH MANY SNOW COURSES REPORTING WATER CONTENTS NEAR OR ABOVE THE AVERAGE FOR APRIL 1. PRECIPITATION DURING JANUARY, MOSTLY IN THE FORM OF RAIN, WAS 160 PERCENT OF NORMAL AND CAUSED STREAMS TO FLOW ABOUT TWICE THEIR AVERAGE AMOUNTS FOR THE MONTH. SOILS ARE WET AND ENHANCE THE PROSPECTS FOR GOOD SPRING AND SUMMER STREAMFLOW.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Beech Creek	Excellent	Average
Beech Creek-Fox-Long Cr.	Excellent	Average
Bridge-Mountain Creeks	Average	Average
Camas Creek	Average	Average
Cherry Creek	Average	Average
Indian-Pine Creeks	Excellent	Average
John Day River, Main Fork	Excellent	Average
John Day River, Mid. Fork	Excellent	Average
John Day River, N. Fork	Excellent	Average
John Day River, S. Fork	Average	Average
Monument-Kimberly	Excellent	Average
Strawberry Creek	Excellent	Average



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Camas Creek near Ukiah	49	114	March-July	b	43
	39	111	April-Sept.	b	35
John Day at Prairie City	64	125	March-July	b	51
	58	126	April-Sept.	b	46
John Day, Middle Fork at Ritter	180	135	March-July	b	135
	155	134	April-Sept.	b	116
John Day, North Fork at Monmouth	870	128	March-July	b	682
	710	120	April-Sept.	b	589
Strawberry near Prairie City	9.5	120	March-July	b	7.9
	10.1	120	April-Sept.	b	8.4

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
John Day above Dayville	6	104	121
John Day, North Fork	2	110	118

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
John Day, North Fork	6	106	136
John Day above Dayville	5	91	138

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.



WATER SUPPLY OUTLOOK
UPPER DESCHUTES,
CROOKED WATERSHEDS
OREGON

as of
FEBRUARY 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
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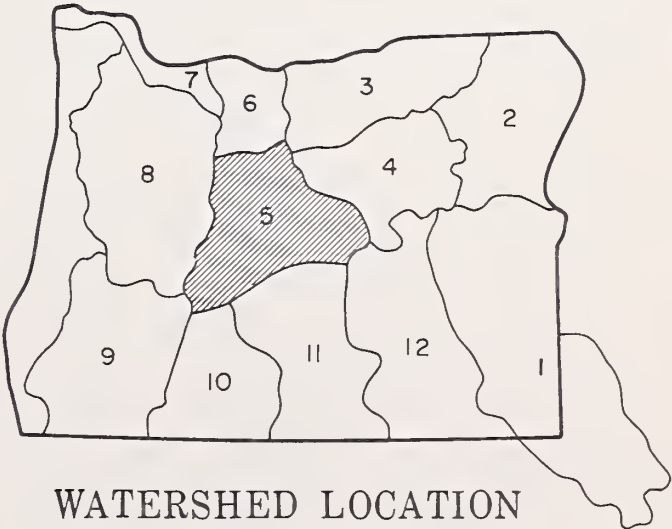
GENERAL OUTLOOK

1971 WATER SUPPLIES WILL BE AVERAGE FOR MOST WATER USERS IN THE AREA DURING THE SPRING AND EARLY SUMMER. SOME SHORTAGES ARE POSSIBLE DURING THE LATE SEASON FOR THE NORTH UNIT USERS DUE TO THE LOW LEVEL OF WATER STORED IN WICKIUP RESERVOIR ON FEBRUARY 1. THE MOUNTAIN SNOWPACK WAS 141 PERCENT OF AVERAGE ON THE DESCHUTES ABOVE WICKIUP. WARM RAINS DURING THE LATTER PART OF JANUARY REDUCED THE SNOWPACK ON ON THE CROOKED AND OCHOCO DRAINAGES FROM 254 PERCENT OF AVERAGE JANUARY 1 TO 108 PERCENT OF AVERAGE FEBRUARY 1. PRECIPITATION WAS 157 PERCENT OF NORMAL DURING JANUARY AND 159 PERCENT OF NORMAL FOR THE NOVEMBER THROUGH JANUARY PERIOD. WATERSHED SOILS WERE WETTED TO 114 PERCENT OF NORMAL AMOUNTS. THE DESCHUTES AT MOODY FLOWED 126 PERCENT OF NORMAL DURING JANUARY. OCHOCO AND PRINEVILLE RESERVOIRS HELD 166 AND 108 PERCENT OF AVERAGE AMOUNTS OF WATER RESPECTIVELY ON FEBRUARY 1. WICKIUP RESERVOIR HELD 79 PERCENT OF THE FEBRUARY 1 AVERAGE. CRANE PRAIRIE STORAGE WAS NEAR AVERAGE AND CRESCENT LAKE WAS 89 PERCENT OF AVERAGE.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Arnold Irrigation District	Average	Average
Bear Creek	Average	Fair
Beaver Creek	Average	Fair
Camp Creek	Average	Fair
Central Ore. Irrig. Dist.	Average	Average
Crooked River	Average	Average
Deschutes River	Average	Average
Hay-Trout Creeks	Average	Fair
Lone Pine Irrig. Dist.	Average	Average
Mill Creek	Average	Fair
North Unit Irrig. Dist.	Average	Fair
Ochoco Creek	Average	Fair
Sisters Irrigation Dist.	Average	Average
Snow Creek Irrigation Dist.	Average	Average
Squaw Creek Irrig. Dist.	Average	Average
Swalley Ditch	Excellent	Excellent
Tumalo Project	Average	Average
Walker Basin Irrig. Dist.	Average	Average



STREAMFLOW FORECASTS

STREAMFLOW FORECASTS	THIS YEAR			PAST RECORD	
BASIN, STREAM and/or FORECAST POINT	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Beaver Creek near Paulina	46	100	Feb.-July	b	46
	21	105	April-Sept.	b	20
Crane Prairie Reservoir total Inflow	145	115	April-Sept.	b	126
Crescent at Crescent Lake ^d	28	108	March-July	b	26
	32	114	April-Sept.	b	28
Crooked near Post	195	113	Feb.-July	b	173
	107	106	April-Sept.	b	101
Deschutes at Benham Falls ^d	400	102	April-July	b	393
	596	100	April-Sept.	b	596
Deschutes below Snow Creek	82	104	Feb.-Sept.	b	79
	71	108	April-Sept.	b	66
Deschutes, Little near Lapine ^d	137	121	Feb.-July	b	113
	117	123	April-Sept.	b	95
Ochoco Reservoir net Inflow	35	92	Feb.-July	b	38
	20	88	April-Sept.	b	23
Odell near Crescent	35	117	April-Sept.	b	30
Squaw near Sisters	59	116	April-Sept.	b	51
Tumalo near Bend ^d	55	112	April-Sept.	b	49

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value ⁱ
Crane Prairie net Inflow	To Be Issued	April 1	
Deschutes at Bend	To Be Issued	April 1	
Little Deschutes near La Pine	400	May 24	June 7
	200	June 19	July 8

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Crane Prairie	55.3	45.0	41.8	44.4
Crescent Lake	86.9	42.4	39.2	47.3
Ochoco	47.5	36.8	33.7	22.2
Prineville	153.0	108.8	137.5	100.7
Wickiup	200.0	127.5	141.0	160.8

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
Crooked River, Upper Deschutes River	2	101	114

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱⁱ
Crooked, Ochoco	4	86	108
Deschutes above Wickiup	3	146	141
Little Deschutes	4	149	136
Tumalo & Squaw Creeks	3	145	128

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.



WATER SUPPLY OUTLOOK HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS

OREGON

as of

FEBRUARY 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

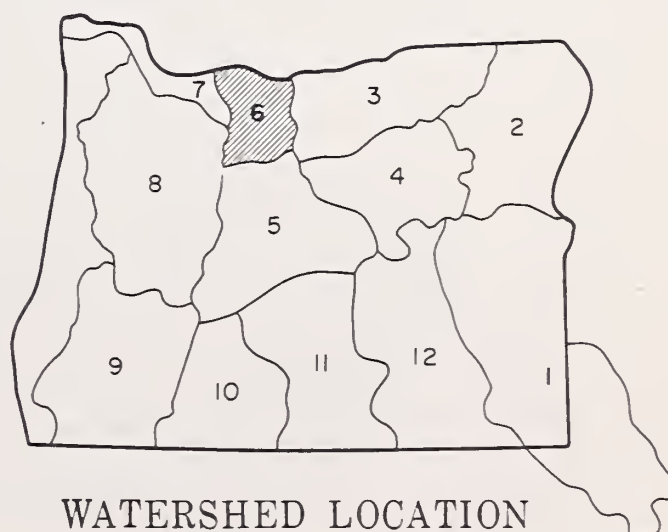
GENERAL OUTLOOK

EXCELLENT WATER SUPPLIES ARE IN PROSPECT FOR THIS AREA DURING THE SPRING AND EARLY SUMMER OF 1971. THE MOUNTAIN SNOWPACK RANGED FROM 168 TO 160 PERCENT OF AVERAGE ON THE HOOD RIVER AND WHITE RIVER WATERSHEDS RESPECTIVELY. PRECIPITATION WAS 108 PERCENT OF AVERAGE FOR BOTH JANUARY AND FOR THE NOVEMBER-JANUARY PERIOD. WATERSHED SOILS ARE HOLDING NEAR AVERAGE AMOUNTS OF AVAILABLE WATER. CLEAR LAKE (WASCO) RESERVOIR WAS HOLDING 157 PERCENT OF THE NORMAL AMOUNT ON FEBRUARY FIRST.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Aldridge Ditch (Tony Creek)	Excellent	Excellent
Badger Creek	Excellent	Average
Dee Irrigation District	Excellent	Excellent
East Fork Irrig. Dist.	Excellent	Excellent
Farmers Irrigation Dist.	Excellent	Excellent
Hood River Irrigation Dist.	Excellent	Excellent
Juniper Flat	Excellent	Excellent
Middle Fork Irrig. Dist.	Excellent	Excellent
Mile Creeks	Excellent	Average
Mill Creek	Excellent	Average
Mount Hood Irrig. Dist.	Excellent	Excellent
Rock-Gate-Threemile Creeks	Excellent	Average
Tygh Creek	Excellent	Excellent
White River	Excellent	Excellent



WATERSHED LOCATION

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Hood River near Hood River ^d	333	118	April-July	<i>b</i>	282
	394	117	April-Sept.	<i>b</i>	336
Hood, West Fork near Dee	164	117	April-July	<i>b</i>	140
	186	116	April-Sept.	<i>b</i>	161
White below Tygh Valley	158	123	April-July	<i>b</i>	128
	175	122	April-Sept.	<i>b</i>	144

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value ⁱ
Clear Branch Inflow	*50	July 15-31	**39
*Average cfs forecast to flow for this two-week period. **Average cfs for period of record.			

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Clear Lake (Wasco)	11.9	4.1	5.6	2.6

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
Hood River, Mile Creeks	1	101	---

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Hood River	6	169	168
Mile Creeks	—	—	—
White River	3	164	160

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WATER SUPPLY OUTLOOK LOWER COLUMBIA WATERSHEDS OREGON

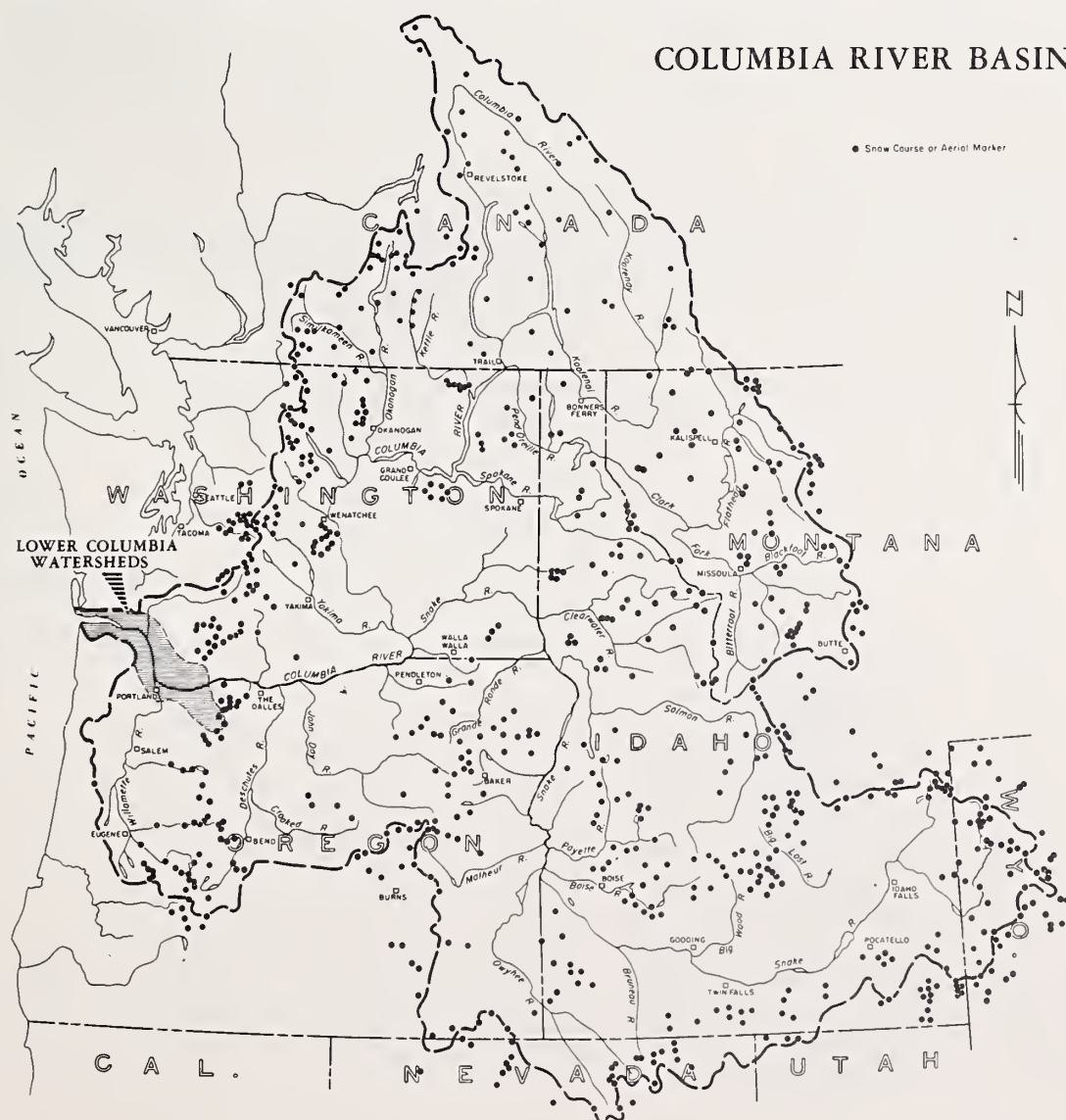
as of

FEBRUARY 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

THE OUTLOOK FOR WATER ALONG THE MAIN STEM OF THE COLUMBIA IS GOOD THIS YEAR. THE SNOWPACK IS WELL ABOVE AVERAGE IN THE U.S. PORTION OF THE BASIN, RANGING FROM 130 TO 200 PERCENT OF AVERAGE. FURTHER NORTH INTO CANADA IT IS NEAR NORMAL TO 15 PERCENT ABOVE. RAINS FELL ON THE SNOW DURING JANUARY AND DENSITIES ARE NEAR WHAT IS EXPECTED NORMALLY IN APRIL AND MAY. RIVER STAGES ALONG THE LOWER COLUMBIA IN MAY AND JUNE SHOULD BE 10 TO 15 PERCENT ABOVE THE AVERAGE.



Report prepared by
T.A. GEORGE AND H.M. VANCE
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Sandy River	2	160	154

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Columbia at The Dalles ^d	85,000	117	April-June	^b	72,406
	120,000	114	April-Sept.	^b	105,176

HISTORICAL DATA (Columbia River at The Dalles)

YEAR	STREAMFLOW ^d (1,000 A.F.)			PEAK (1,000 c.f.s.)	DATE
	APR. - SEPT.	APR. - JUNE	MAY - JUNE		
1953	100,600	64,900	55,800	609	June 17
1954	119,500	70,500	59,300	561	May 23
1955	99,500	58,300	50,300	545	June 26
1956	131,400	96,900	75,800	815	June 3
1957	105,700	80,500	67,200	700	May 22
1958	97,700	72,000	58,600	593	May 31
1959	112,500	71,900	58,900	555	June 23
1960	97,000	64,000	48,000	442	June 6
1961	101,400	74,400	64,000	699	June 8
1962	94,600	64,100	49,200	460	June 5
1963	87,000	56,300	46,200	437	June 18
1964	109,020	70,739	61,313	662	June 18
1965	114,137	80,024	62,477	520	June 9
1966	87,268	58,120	45,922	396	June 12
1967	107,771	72,903	65,112	622	June 10
1953-67 Avg.	105,181	72,408	59,689	574	

LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)

VANCOUVER GAGE (Weather Bu.)	FLOW AT THE DALLES (1,000 c.f.s.)	DRAINAGE DISTRICT PUMPHOUSE						
		SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
		RIVER MILES						
		118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	943	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	897	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	853	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	811	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	771	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	733	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	697	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	662	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	628	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	595	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20 (1954)	564	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	534	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	501	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	479	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	452	22.4	16.5	15.5	13.0	10.5	9.3	8.7

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records.



WATER SUPPLY OUTLOOK
WILLAMETTE
WATERSHEDS
OREGON

as of

FEBRUARY 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

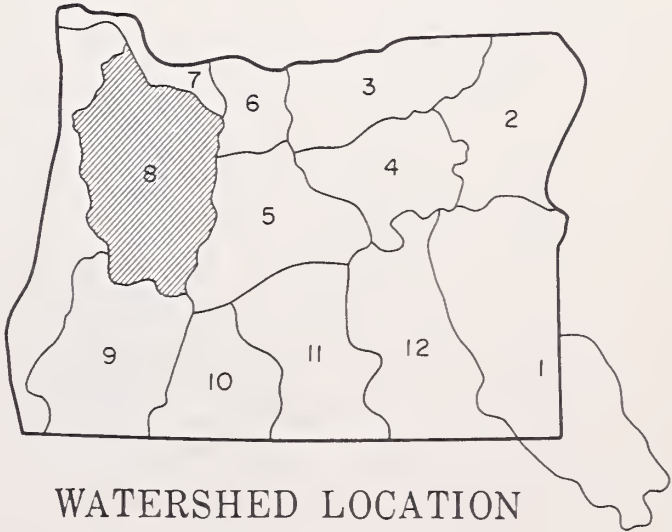
GENERAL OUTLOOK

WATER USERS IN THE AREA HAVE EXCELLENT WATER SUPPLIES IN PROSPECT DURING THE 1971 SEASON. WARM RAIN REDUCED THE SNOWPACK FROM THE RECORD HIGHS RECORDED ON JANUARY 1 BUT IT REMAINS IN THE 137 TO 184 PERCENT OF AVERAGE RANGE. JANUARY RAINFALL WAS 120 PERCENT OF AVERAGE, AND PRECIPITATION FOR THE NOVEMBER TO JANUARY PERIOD WAS 122 PERCENT OF AVERAGE. THE MIDDLE FORK OF THE WILLAMETTE RIVER BELOW THE NORTH FORK FLOWED 208 PERCENT OF NORMAL DURING JANUARY. SEVERAL OF THE MULTIPURPOSE POWER RESERVOIRS WERE FILLED TO ABOVE USUAL AMOUNTS BY HEAVIER THAN NORMAL RUNOFF DURING THE MONTH.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Calapooya	Excellent	Average
Clackamas	Excellent	Excellent
McKenzie	Excellent	Excellent
Molalla	Excellent	Average
Santiam, North	Excellent	Excellent
Santiam, South	Excellent	Excellent
Willamette, Coast Fork	Excellent	Average
Willamette, Middle Fork	Excellent	Average



WATERSHED LOCATION

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Clackamas at Big Bottom	155	115	April-July	b	134
	196	118	April-Sept.	b	166
Clackamas at Estacada	775	112	April-July	b	689
	874	109	April-Sept.	b	800
Clackamas above Three Lynx	616	119	April-July	b	517
	717	117	April-Sept.	b	610
McKenzie at McKenzie Bridge ^d	511	110	April-July	b	465
	680	110	April-Sept.	b	614
McKenzie near Vida ^d	1,231	113	April-July	b	1,087
	1,454	110	April-Sept.	b	1,321
McKenzie, So. Fork near Rainbow ^d	264	120	April-July	b	221
	300	119	April-Sept.	b	252
Oak Grove Fork above Power Intake	150	120	April-July	b	125
	200	122	April-Sept.	b	163
Row near Dorena	113	107	April-July	b	106
	118	107	April-Sept.	b	110
Santiam, North at Mehama ^d	958	120	April-July	b	800
	1,020	113	April-Sept.	b	901
Santiam, South at Waterloo ^d	662	111	April-July	b	596
	709	112	April-Sept.	b	633
Willamette, Mid. Fk. blw. N. Fk. nr. Oakridge ^d	864	119	April-July	b	725
	927	112	April-Sept.	b	828
Willamette, No. Fk. of Mid. Fork near Oakridge	215	109	April-July	b	198
	232	106	April-Sept.	b	219
Willamette at Salem ^d	5,076	108	April-July	b	4,696
	5,636	108	April-Sept.	b	5,199

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RESERVOIR STORAGE (Thousand Ac. Ft.)

END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage			RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		This Year	Last Year	Average ⁱ			Last Year	Average ⁱ
Blue River	85.6*	55.3	--	--	Clackamas River	2	228	179
Cottage Grove	30.0*	24.2	19.7	2.5	McKenzie River	3	224	161
Cougar	155.2*	92.5	95.3	--	Row River	2	370	184
Detroit	299.9*	188.8	245.9	41.9	Santiam River	4	248	175
Dorena	70.5*	44.9	62.2	9.6	Willamette, Middle Fork	5	176	137
Fall Creek	115.0*	70.5	75.6	--				
Fern Ridge	94.2*	55.2	86.1	20.8				
Foster	30.0*	22.5	2.7	--				
Green Peter	270.0*	152.2	181.1	--				
Hills Creek	200.0*	130.4	138.3	178.4 ^m				
Lookout Point	337.2*	123.3	250.0	47.1 ^m				
Timothy Lake	61.7	54.1	48.9	45.5 ^m				

* Multiple purpose reservoir--space reserved primarily for flood runoff.

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.



WATER SUPPLY OUTLOOK
ROGUE, UMPQUA,
WATERSHEDS
OREGON

as of

FEBRUARY 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

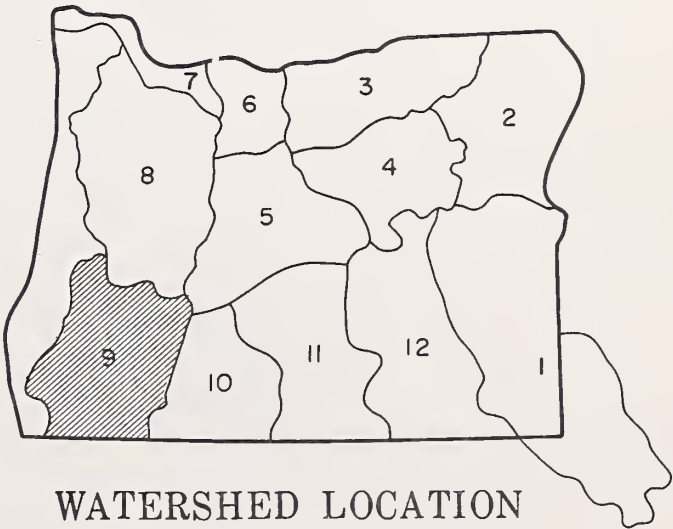
GENERAL OUTLOOK

WATER USERS IN THE ROGUE, UMPQUA WATERSHEDS WILL HAVE EXCELLENT WATER SUPPLIES DURING THE SPRING AND EARLY SUMMER OF 1971. THE SNOW-PACK REMAINS AT 126 TO 173 PERCENT OF AVERAGE WITH THE WATER CONTENT AT NEAR THE APRIL 1 AVERAGE ON MOST WATERSHEDS. RAINFALL WAS 121 PERCENT OF NORMAL DURING JANUARY AND 132 PERCENT OF NORMAL FOR THE NOVEMBER TO JANUARY PERIOD. THE UMPQUA NEAR ELKTON AND THE ROGUE AT RAYGOLD FLOWED 187 AND 177 PERCENT OF AVERAGE RESPECTIVELY DURING JANUARY. WATER STORED IN AREA RESERVOIRS WAS 122 PERCENT OF THE FEBRUARY FIRST AVERAGE.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Althouse Creek	Excellent	Excellent
Applegate River, Big	Excellent	Average
Applegate River, Little	Excellent	Average
Ashland Creek	Excellent	Excellent
Butte Creek, Big	Excellent	Average
Butte Creek, Little	Excellent	Average
Cow Creek	Excellent	Average
Deer Creek	Excellent	Average
Elk Creek	Excellent	Average
Emigrant Creek (abv. Res.)	Excellent	Average
Evans Creek	Excellent	Average
Gold Hill Irrigation Dist	Excellent	Excellent
Grants Pass Irrig. Dist.	Excellent	Excellent
Grave Creek	Excellent	Excellent
Illinois River, East Fork	Excellent	Excellent
Illinois River, West Fork	Excellent	Excellent
Jump-off-Joe Creek	Excellent	Average
Neil Creek	Excellent	Average
Red Blanket Creek	Excellent	Excellent
Rogue River	Excellent	Excellent
Sucker Creek	Excellent	Excellent
Table Rock Irrig. Dist.	Excellent	Excellent
Thompson Creek	Excellent	Excellent
Wagner Creek	Excellent	Excellent
Williams Creek	Excellent	Excellent



WATERSHED LOCATION

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Clear Lake Reservoir Inflow ^k	90	103	Feb.-June	b	87
Gerber Reservoir Inflow ^k	42	98	Feb.-June	b	43
Sprague near Chilaquin	403	100	Feb.-Sept.	b	403
	296	100	April-Sept.	b	296
Upper Klamath Lake net Inflow ^k	987	99	Feb.-Sept.	730	994
	625	101	April-Sept.	345	619
Williamson below Sprague River	767	113	Feb.-Sept.	b	680
	553	116	April-Sept.	b	475

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m
Upper Klamath	2	92	110

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^{4j}
Clear Lake	440.2	327.7	336.6	206.7
Gerber	94.0	72.5	81.6	39.2
Upper Klamath Lake	584.0	397.7	503.0	360.9

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^{4j}
Lost River	4	115	101
Sprague River	3	175	90
Upper Klamath	7	192	107
Williamson River	3	198	128

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WATER SUPPLY OUTLOOK
LAKE COUNTY, GOOSE
LAKE WATERSHEDS
OREGON

as of

FEBRUARY 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

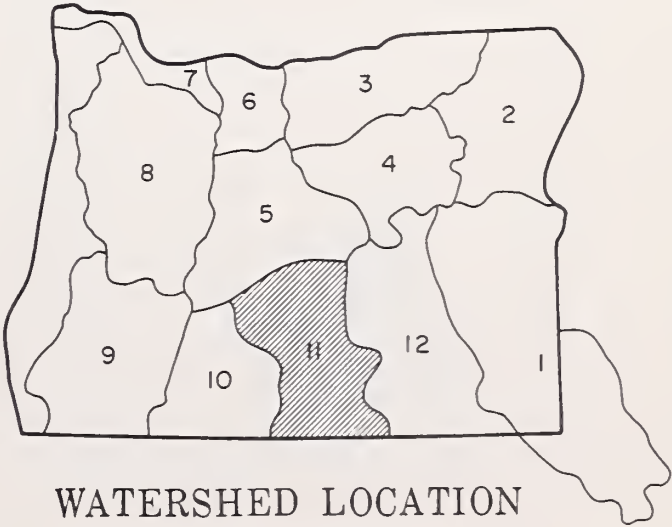
GENERAL OUTLOOK

AVERAGE WATER SUPPLIES ARE IN PROSPECT FOR WATER USERS DEPENDING ON NATURAL STREAMFLOW, AND SUPPLIES WILL BE EXCELLENT FOR STORED WATER USERS. PRECIPITATION IN THE FORM OF RAIN AND LESS THAN-NORMAL AMOUNTS OF SNOW REDUCED THE SNOWPACK AT THE LOWER AND MEDIAN ELEVATIONS FROM THE OVER 200 PERCENT OF AVERAGE RECORDED JANUARY 1 TO 98 TO 136 PERCENT OF AVERAGE ON FEBRUARY FIRST. SOILS ARE WELL WETTED AND WILL ENHANCE RUNOFF FROM SPRING RAINFALL. PRECIPITATION DURING JANUARY WAS 79 PERCENT OF AVERAGE AND 133 PERCENT OF AVERAGE DURING THE NOVEMBER-JANUARY PERIOD. RESERVOIR STORAGE IS ABOVE AVERAGE.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Chewaucan	Average	Fair
Crooked Creek	Average	Fair
Deep Creek	Average	Average
Dry Creek	Average	Fair
East Side Goose Lake	Average	Average
Guano Lake	Average	Fair
Honey Creek	Average	Average
Lakeview Water Users Assn.	Excellent	Excellent
Rock Creek (Hart Mtn.)	Average	Fair
Silver-Buck Creeks	Average	Average
Summer Lake	Average	Fair
Thomas Creek	Average	Average
Twentymile	Average	Average
Warner Lakes	Average	Average



WATERSHED LOCATION

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Chewaucan near Paisley	95	104	March-July	b	91
Deep above Adel	80	113	March-July	b	71
Drews Reservoir net Inflow ^d	42	91	March-July	b	46
Honey Creek near Plush	20	111	March-July	b	18
Silver Creek near Silver Lake	21	100	March-July	b	21
Twentymile near Adel	22	92	March-July	b	24

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^m

Chewaucan, Silver Creek	1	89	107
Drew Creek			
Honey, Deep, 20-mile Crs.	1	98	113

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ⁱ
Cottonwood	8.7	6.1	8.5	2.1*
Drews	63.0	59.4	63.5	34.0
Thompson Valley	19.5	15.5**	- -	- -
* Average for years of record (in base period) after reconstruction				
**1/25/71				

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Chewaucan River	3	175	96
Deep Creek	3	115	108
Drew Creek	3	134	89
Honey Creek	3	114	128
Silver Creek	3	226	112
Twentymile Creek	2	100	100

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.



WATER SUPPLY OUTLOOK
HARNEY BASIN
WATERSHEDS
OREGON

as of

FEBRUARY 1, 1971

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

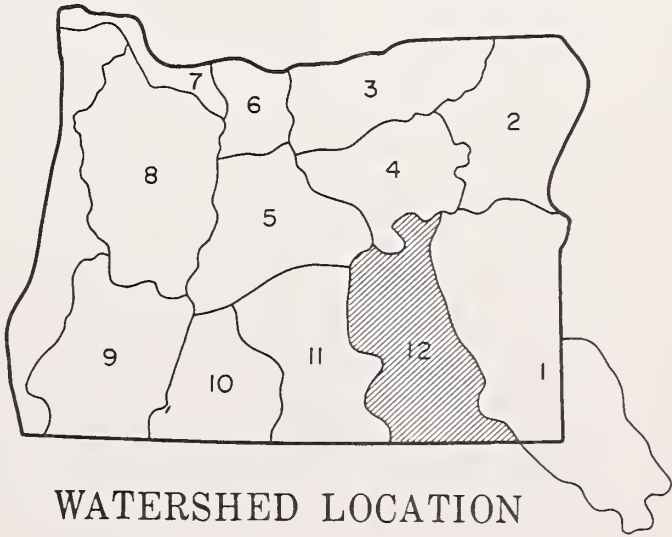
GENERAL OUTLOOK

THE WATER SUPPLY OUTLOOK FOR THE 1971 SEASON RANGES FROM EXCELLENT FOR STREAMS DRAINING THE SOUTH SIDE OF THE BLUE AND OCHOCO MOUNTAINS TO FAIR ON THE TROUT AND WHITEHORSE CREEK DRAINAGES. THE SNOWPACK VARIES FROM 135 PERCENT OF AVERAGE ON THE UPPER SILVIES RIVER TO ONLY A TRACE ON THE TROUT CREEK DRAINAGE. RAIN AND BELOW NORMAL INCREMENTS OF SNOW REDUCED THE SNOWPACK FROM THE HIGH LEVELS ON JANUARY FIRST. MOST STREAMS IN THE AREA FLOWED HEAVY DURING JANUARY. MOUNTAIN SOILS ARE WET AND WILL ENHANCE RUNOFF FROM SPRING PRECIPITATION. RAINFALL WAS 117 PERCENT OF AVERAGE DURING JANUARY AND 148 PERCENT OF AVERAGE FOR THE NOVEMBER THROUGH JANUARY PERIOD.

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Catlow Valley	Average	Average
Cow Creek	Excellent	Average
Donner und Blitzen River	Average	Fair
Mill-Coffeepot Creeks	Excellent	Average
Rattlesnake Creek	Excellent	Average
Silver Creek	Excellent	Excellent
Silvies River	Excellent	Excellent
Soldier-Prather Creek	Average	Fair
Trout Creek	Fair	Poor
Whitehorse Creek	Fair	Poor



WATERSHED LOCATION

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ⁱ
Donner und Blitzen near Frenchglen	45	83	March-July	b	54
	50	91	April-Sept.	b	55
Silver near Riley	25	140	April-July	b	17.9
Silvies River near Burns	137	136	March-July	b	101
	115	138	April-Sept.	b	83
Trout Creek near Denio	5.0	65	March-July	b	7.7

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ⁱ
Silvies River, Silver Creek	3	103	109
Trout Creek, Donner und Blitzen River	-	---	---

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ⁱ
Donner and Blitzen River	4	70	94
Silver Creek	3	87	118
Silvies River	4	87	135
Trout Creek	3	0	0

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

BASIC DATA SUPPLEMENT 1

Feb. 1, 1971

SNOW

SNOW	THIS YEAR			PAST REC.	
DRAINAGE BASIN and/or SNOW COURSE	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. i
OWYHEE, MALHEUR WATERSHEDS					
Antelope Ridge (Ida.)	2/1	19	5.0	6.6	3.4 ^h
Battle Creek ^e (Ida.)	1/27	0	0.0	2.5	2.8 ^m
Bear Creek ^e (Nev.)	1/28	48	17.6	15.2	11.3 ^h
Big Bend (Nev.)	1/27	25	7.8	7.0	5.3
Blue Mountain Springs	1/28	48	16.0	18.5	10.4
Blue Mtn. Springs Pillow	1/28		8.2	-	-
Buck Pasture ^e	1/27	0	0.0	T	1.6 ^m
Buckskin, Lower (Nev.)	c				
Buckskin, Upper (Nev.)	c				
Bull Basin ^e (Ida.)	1/27	0	0.0	1.8	0.9 ^m
Bully Creek ^e	1/27	10	2.8	3.2	2.3 ^m
Call Meadow ^e	1/27	24	6.7	6.5	2.1 ^m
Columbia Basin ^e (Nev.)	1/27	18	5.6	8.3	-
Cottonwood-Indian ^e	1/27	0	0.0	0.0	1.0 ^m
Crane Prairie	c				
Crow Camp	Discontinued			T	1.2 ^m
Disaster Peak (Nev.)	c				
Eldorado Pass	1/29	19	5.3	3.8	2.5 ^h
Fawn Creek ^e (Nev.)	1/27	0	0.0	4.2	-
Fish Creek ^e	1/27	48	18.2	22.2	14.4 ^h
Flag Prairie ^e	1/27	22	7.3	5.4	2.5 ^m
Fox Creek (Nev.)	c				
Fry Canyon (Nev.)	1/27	13	4.1	5.4	4.7
Gold Creek (Nev.)	1/27	16	5.0	4.4	3.6
Granite Peak (Nev.)	1/28	37	15.4	17.2	8.3 ^h
Hyde Pasture ^e (Ida.)	1/27	8	3.2	2.8	3.8 ^m
Jack Creek, Lower (Nev.)	c				
Jack Creek, Upper (Nev.)	1/27	11	3.3	5.2	5.1 ^h
Jack Peak (Nev.)	c				
Lake Creek R. S.	1/28	33	10.7	11.4	7.0 ^h
Laurel Draw (Nev.)	1/29	11	3.7	6.1	4.8 ^h
Logan Valley ^e	1/27	21	6.7	7.0	5.1 ^m
Lookout Butte ^e	1/27	0	0.0	0.0	0.1 ^m
Louse Canyon ^e	1/27	0	0.0	1.8	2.0 ^m
Martin Creek (Nev.)	1/28	19	7.3	8.3	5.7 ^h
Merritt Mountain (Nev.)	1/27	10	7.8	5.9	-
Midas ^e (Nev.)	1/27	0	0.0	1.4	-
Mud Flat (Ida.)	2/1	18	5.2	6.2	3.4 ^h
Oregon Canyon ^e	1/27	0	0.0	3.4	3.2 ^m
Quinn Ridge ^e (Nev.)	1/27	0	0.0	T	1.5 ^m
Red Canyon ^e (Ida.)	1/27	10	4.0	11.2	4.2 ^m
Rock Spring	1/27	20	5.7	5.2	3.8
Rodeo Flat (Nev.)	1/27	4	1.3	3.7	4.2
76 Creek (Nev.)	1/27	25	9.2	13.9	6.1 ^h
Silver City (Ida.)	2/1	41	15.1	15.4	9.2 ^h
Silvies ^e	1/27	10	3.8	7.8	-
South Mountain #2 (Ida.)	1/27	29	11.6	11.4	7.3
Stag Mountain ^e (Nev.)	1/27	12	3.5	5.6	-
Stinking Water	2/1	0	0.0	T	2.6 ^h
Succor Creek ^e (Ida.)	1/27	6	2.3	3.2	4.4 ^m
Taylor Canyon (Nev.)	1/27	12	3.6	3.4	3.6 ^h
Toe Jam ^e (Nev.)	1/27	12	3.6	9.1	-
Tremewan Ranch (Nev.)	1/27	1	0.1	T	1.2 ^h
Triangle ^e (Ida.)	1/27	0	0.0	0.0	0.8 ^m
Trout Creek	1/27	0	0.0	5.0	3.7 ^m
"V" Lake ^e	1/27	4	1.6	3.4	2.5 ^m
Vaught Ranch ^e (Ida.)	1/27	0	0.0	2.2	-
War Eagle ^e (Ida.)	1/27	48	17.8	28.5	-

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. 1
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS					
Aneroid Lake #1	1/28	97	35.6	23.8	24.0
Aneroid Lake #2	1/27	86	32.8	22.1	21.6
Anthony Lake	1/29	62	20.0	21.9	16.4
Bald Mountain ^e (Ore.)	2/1	51	17.3	16.8	16.7 ^m
Beaver Reservoir	1/27	32	8.2	5.2	6.7
Beaver Reservoir (Alt.)	1/27	40	10.8	-	-
Big Sheep ^e	2/1	74	26.6	18.0	18.0 ^m
Blue Mtn. Summit	1/28	32	8.6	7.2	5.6
Bourne	1/27	51	16.5	14.8	10.3
County Line	1/29	16	2.8	1.9	4.1
Dooley Mountain	1/25	36	11.3	7.1	5.4
Eilertson Meadows	1/26	36	13.1	9.4	7.6
Eldorado Pass	1/29	19	5.3	3.8	2.5 ^h
Gold Center	1/27	48	14.7	12.6	8.2
Goodrich Lake	2/1	94	39.9	33.2	23.7 ^h
Intake House	1/26	43	11.8	10.0	-
Little Alps	1/29	42	13.2	10.5	7.9 ^h
Little Antone	1/29	26	7.5	7.8	-
Lucky Strike	1/28	33	9.9	8.2	8.0 ^h
Meacham	1/26	21	5.7	3.6	6.6
Mirror Lake ^e	2/1	151	57.4	53.4	44.7 ^m
Moss Spring	1/28	68	22.0	15.0	14.7
Power Plant	1/26	24	6.7	6.0	-
Schneider Meadows	1/25	109	34.2	29.3	19.4
Schoolmarm	1/29	11	2.2	1.3	3.6
Standley ^e	2/1	58	20.9	29.4	17.2 ^m
Taylor Green	1/28	57	18.4	13.2	-
Tipton	1/28	36	11.0	10.3	6.9
Tipton Snow Pillow	1/28	--	10.9	-	-
Tollgate	1/28	58	21.5	20.4	15.9
TV Ridge #2 ^e	2/1	37	13.3	15.6	-
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS					
Arbuckle Mountain	1/29	26	8.2	7.8	7.2
Battle Mountain Summit	1/26	6	1.4	T	1.8 ^m
Blue Mountain Camp	1/28	23	13.6	10.8	10.6 ^h
Emigrant Springs	1/26	6	1.6	1.2	4.0
Lucky Strike	1/28	33	9.9	8.2	8.0 ^h
Meacham	1/26	21	5.7	3.6	6.6
Tollgate	1/28	58	21.5	20.4	15.9 ^m
Weston Mountain	1/28	0	0.0	0.0	1.0

BASIC DATA SUPPLEMENT 1

Feb. 1, 1971

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR.			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. 2
UPPER JOHN DAY WATERSHEDS					
Anthony Lake	1/29	62	20.0	21.9	16.4
Arbuckle Mountain	1/29	26	8.2	7.8	7.2
Battle Mountain Summit	1/26	6	1.6	T	1.8
Beech Creek Summit	1/26	17	5.0	1.8	3.7
Blue Mountain Springs	1/28	48	16.0	18.5	10.4
Blue Mtn. Springs Pillow	1/28	--	8.2	--	--
Blue Mountain Summit	1/28	32	8.6	7.2	5.6
Derr	1/27	22	7.2	10.2	6.6
East Fork Canyon ^e	b			--	--
Gold Center	1/27	48	14.7	12.6	8.2
Indian Creek Butte ^e	1/27	69	22.1	--	--
Izee Summit	1/26	23	6.0	8.0	5.7
Lucky Strike	1/28	33	9.9	8.2	8.0
Marks Creek	1/25	9	2.7	1.2	3.1
Ochoco Meadows	1/29	21	6.3	7.2	6.6
Olive Lake ^e	b			19.4	12.2
Schoolmarm	1/29	11	2.2	1.3	3.6
Snow Mountain	1/27	35	10.6	12.4	8.6
Snow Mountain Pillow	1/27	--	11.3	--	--
Starr Ridge	1/26	18	4.8	5.5	4.1
Tipton	1/28	36	11.0	10.3	6.9
Tipton Snow Pillow	1/28	--	10.9	--	--
Williams Ranch	2/1	T	T	0.0	0.9
UPPER DESCHUTES WATERSHEDS					
Black Pine Spring	1/29	2	0.9	1.8	3.0
Caldwell Ranch	1/28	30	9.4	5.8	8.4
Cascade Summit	1/27	73	25.6	14.5	19.1
Chemult	1/29	28	10.9	7.0	8.4
Deer Creek	1/28	49	15.8	10.8	--
Derr	1/27	22	7.2	10.2	6.6
Hogg Pass	1/29	101	39.8	24.8	25.6
Hungry Flat	1/31	23	8.1	2.6	5.1
Irish-Taylor	1/28	91	33.6	21.1	23.3
Irish-Taylor Pillow	2/3	--	36.7	--	--
Marks Creek	1/25	9	2.7	1.2	3.1
Mowich	1/25	18	5.4	2.1	4.2
New Crescent Lake	1/25	38	13.2	8.5	10.5
New Dutchman Flat #2	1/31	103	45.6	33.6	31.8
Ochoco Meadows	1/29	21	6.3	7.2	6.6
Snow Mountain	1/27	35	10.6	12.4	8.6
Snow Mountain Pillow	1/27	--	11.3	--	--
Tamarack	1/28	15	4.4	4.7	4.3
Tangent	1/31	60	22.7	17.8	15.4
Three Creek Butte	1/29	30	10.1	5.7	8.0
Three Creek Meadow	1/29	45	17.5	10.9	12.3
Three Creek Mdw. Pillow	b			--	--
Waldo Lake	1/26	75	26.1	14.4	19.7
Willamette Pass	1/27	103	38.2	28.9	26.2
Willamette Pass Pillow	2/3	--	38.9	--	--

SNOW

SNOW	THIS YEAR			PAST REC.	
DRAINAGE BASIN and/or SNOW COURSE	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. 2 Yrs.
HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS					
Brooks Meadows	c				
Clear Lake	1/27	36	12.6	6.4	5.9
Clear Lake (Experimental)	1/27	46	15.2	9.6	9.8 ^h
Cooper Spur	2/1	27	9.4	10.4	7.5 ^h
Cooper Spur (Alternate)	2/1	30	11.2	11.8	- -
Greenpoint Reservoir	1/29	48	18.1	14.2	9.7
Knebal Springs	c				
Parkdale	2/1	0	0.0	2.6	0.8 ^m
Phlox Point	1/28	157	52.6	36.9	35.8
Red Hill	1/28	112	44.8	16.7	23.1
Still Creek	1/27	72	23.8	13.4	13.8
Still Creek (Alternate #2)	1/30	65	24.9	- -	- -
Switchback	1/29	39	14.8	13.7	9.9 ^m
Tilly Jane	1/24	98	37.8	25.2	24.0
Ulrich Ranch Junction	c				
Umbrella Falls	1/28	168	68.5	46.0	- -
Upper Valley	2/1	0	0.0	8.5	2.7 ^h
WILLAMETTE WATERSHEDS					
Cascade Summit	1/27	73	25.6	14.5	19.1
Champion	2/1	74	31.0	10.0	16.4
Clackamas Lake	c				
Clear Lake	1/27	36	12.6	6.4	5.9
Clear Lake (Experimental)	1/27	46	15.2	9.6	9.8 ^h
Dead Horse Grade	2/1	38	13.5	4.2	10.7
Detroit Town	1/29	3	1.8	0.0	1.4
Detroit Dam	1/29	0	0.0	0.0	0.3
Golden Curry Creek	2/1	18	6.0	0.0	3.7
Hogg Pass	1/29	101	39.8	24.8	25.6 ^m
Lake Harriet	2/2	12	4.5	0.0	2.1 ^m
Laurel Mountain	2/1	0	0.0	1.1	- -
Layng Creek	2/1	0	0.0	0.0	T
Lost Creek Ranch	2/1	19	6.8	0.0	2.8
Lund Park	2/1	0	0.0	0.0	0.4
Marion Forks	1/29	49	17.3	1.6	8.2 ^h
Marys Peak	1/28	49	19.9	2.8	4.0 ^m
Marys Peak (Alternate)	1/28	38	17.4	2.2	- -
McCredie Springs	1/27	0	0.0	0.0	0.2
McKenzie	2/1	92	44.0	24.8	27.6
McKenzie Bridge	2/1	0	0.0	0.0	0.3
Meridian Dam	1/27	0	0.0	0.0	0.0
Mill City	1/29	0	0.0	0.0	T
Oakridge	1/27	0	0.0	0.0	T
Peavine Ridge	2/1	44	17.1	6.6	10.7
Peavine Ridge Pillow	b			7.8	- -
Phlox Point	1/28	157	52.6	36.9	35.8
Railroad Overpass	1/27	T	T	0.2	2.1
Salt Creek Falls	1/27	48	16.0	2.2	10.0
Santiam Junction	1/29	73	23.9	9.8	15.0
Still Creek	1/27	72	23.8	13.4	13.8
Still Cr. Alternate #2	1/30	65	24.9	- -	- -
Timothy Lake	2/2	40	18.5	10.7	6.5 ^m
Valsetz Summit	2/1	0	0.0	0.1	- -
Vida	2/1	0	0.0	0.0	T
Waldo Lake	1/26	75	26.1	14.4	19.7
Weaver Creek	1/26	0	0.0	0.0	1.0
White Branch Slide	2/1	31	11.0	1.5	4.0
Whitewater Bridge	1/29	31	10.7	0.7	3.7
Willamette Pass	1/27	103	38.2	28.9	26.2
Willamette Pass Pillow	2/3		38.9	- -	- -

BASIC DATA SUPPLEMENT 1

Feb. 1, 1971

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. i

ROGUE, UMPQUA WATERSHEDS					
Althouse	1/29	24	9.0	0.4	5.0
Althouse #2	1/29	28	10.6	0.8	-
Annie Spring	1/29	100	39.3	33.3	27.8
Beaver Dam Creek	1/29	34	12.2	3.3	8.1 ^m
Big Red Mountain	1/26	63	25.2	23.5	19.8
Billie Creek Divide	1/28	42	16.1	10.6	14.2 ^h
Caliban	2/1	76	29.5	29.8	-
Champion	2/1	74	31.0	10.0	16.4
Cold Springs Camp	1/28	79	31.7	17.6	21.9 ^h
Cold Springs Camp Pillow	2/3	--	24.7	-	-
Deadwood Junction	1/27	22	8.6	1.7	6.3 ^h
Diamond-Crater Summit	1/22	80	30.2	18.4	22.7 ^h
Diamond-Crater Sum. Alt.	1/22	73	27.1	16.3	-
Diamond Lake	1/22	48	18.9	8.8	14.6
Fish Lake	1/28	33	12.3	4.6	9.8 ^m
Fourmile Lake	c			11.2	17.0 ^h
Grayback Peak	1/28	55	24.0	14.1	18.6
Howard Prairie	1/29	23	8.9	1.0	6.4 ^h
Hyatt Prairie	1/29	21	8.0	1.3	5.9 ^h
King Mountain #1	1/28	38	16.6	1.9	-
King Mountain #2	1/28	22	9.2	1.0	-
King Mountain #3	1/28	0	0.0	0.3	-
King Mountain #4	1/28	0	0.0	0.0	-
King Mountain #5	1/28	0	0.0	0.0	-
King Mountain #6	1/28	0	0.0	0.0	-
Little Red Mountain	1/26	46	18.2	15.4	15.2 ^m
Mt. Ashland Switchback	2/1	89	32.2	26.5	-
Mule Creek	1/27	28	12.6	0.0	-
North Umpqua	1/27	34	13.3	4.2	10.4
Page Mountain	1/29	8	3.1	0.1	3.9 ^h
Park Headquarters	1/29	123	50.3	44.7	36.5
Red Butte #1	1/25	41	13.8	2.0	9.9 ^h
Red Butte #2	1/25	22	8.7	1.0	6.7 ^h
Red Butte #3	1/25	14	4.8	0.0	4.1 ^h
Red Butte #4	1/25	T	T	0.0	2.9 ^h
Red Butte #5	1/25	0	0.0	0.0	0.6 ^m
Red Butte #6	1/25	0	0.0	0.0	0.0 ^m
Seven Lakes #2	1/26	75	30.0	29.2	25.8 ^h
Seven Mile	1/25	64	25.0	19.7	-
Silver Burn	1/28	38	12.5	1.0	9.8
Siskiyou Summit	1/29	29	11.4	1.6	6.6
Siskiyou Summit Alt. #2	1/29	28	11.7	1.8	-
Ski Bowl Road	2/1	73	25.3	22.3	-
South Fork Canal	1/28	16	6.3	0.2	2.8
Trap Creek	1/27	30	12.0	2.0	8.6 ^h
Whaleback	2/1	69	27.4	16.1	21.7 ^h

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. i

KLAMATH WATERSHEDS					
Annie Spring	1/29	100	39.3	33.3	27.8 ^m
Beatty (PP&L)	1/31	0	0.0	0.0	0.6 ^h
Billie Creek Divide	1/28	42	16.1	10.6	14.2 ^h
Bly Mountain	1/20	20	7.0	0.9	5.0 ^h
Bly 101 Ranch (PP&L)	1/31	0	0.0	0.0	1.7
Chemult	1/29	28	10.9	7.0	8.4
Cheiloquin (PP&L)	1/31	0	0.0	-	1.7
Cold Springs Camp	1/28	79	31.7	17.6	21.9 ^h
Cold Springs Camp Pillow	2/3	--	24.7	-	-
Crazyman Flat ^e	1/28	20	6.0	7.0	6.5 ^m
Crowder Flat ^e (Calif.)	1/28	10	2.9	1.8	3.0 ^m
Crystal (PP&L)	1/29	22	8.7	1.8	7.1
Diamond-Crater Summit	1/22	80	30.2	18.4	22.7 ^h
Diamond-Crater Summit Alt.	1/22	73	27.1	16.3	-
Diamond Lake Junction (97)	1/22	24	8.2	1.4	4.7 ^h
Dog Hollow ^e	1/28	0	0.0	0.2	1.2 ^m
Finley Corrals ^e	1/28	37	11.1	11.0	10.4 ^m
Fort Klamath (PP&L)	1/28	10	3.4	0.2	3.8
Fourmile Lake	c			11.2	17.0 ^h
Gerber	2/1	0	0.0	0.0	2.3
Harriman (PP&L)	1/31	15	5.0	1.5	3.6
Hyatt Prairie Reservoir	1/29	21	8.0	1.3	5.9 ^h
Kirk (PP&L)	1/31	27	7.8	-	5.8 ^h
Lake of the Woods	1/27	24	8.0	2.5	8.4 ^h
Park Headquarters	1/29	123	50.3	44.7	36.5
Pelican Guard Station	1/28	9	3.0	0.0	3.0 ^h
Quartz Mountain	1/28	16	4.5	1.8	5.4
Quartz.Mtn. (Extension)	1/28	17	5.1	1.6	-
Seven Lakes #2	1/26	75	30.0	29.2	25.8 ^h
Seven Mile	1/25	64	25.0	19.7	-
State Line ^e (Calif.)	1/28	20	5.8	5.2	6.5 ^m
Strawberry	1/29	18	5.1	4.6	5.4 ^h
Summer Rim ^e	1/28	27	8.9	7.0	9.8 ^m
Summer Rim Snow Pillow	c			-	-
Sun Mountain	1/21	50	18.9	13.8	16.7 ^h
Sycan Flat ^e	1/28	17	5.6	3.5	5.7 ^m
Taylor Butte	1/29	18	5.5	2.0	4.5 ^h

LAKE COUNTY, GOOSE LAKE WATERSHEDS

Adin Mountain (Calif.)	1/29	29	10.8	9.4	7.5
Bald Mountain (Nev.)	c				
Bear Flat Meadow ^e	1/28	26	7.8	7.5	5.8 ^m
Camas Creek	1/29	27	8.8	6.1	7.3
Cedar Pass (Calif.)	2/1	36	12.5	12.6	9.5
Colvin Creek ^e	1/28	4	1.3	2.2	-
Cox Flat ^e	1/29	18	5.4	1.1	5.3 ^m
Crowder Flat ^e (Calif.)	1/28	10	2.9	1.8	3.0 ^m
Dismal Swamp ^e (Calif.)	1/28	30	12.0	11.0	9.1 ^m
Finley Corrals ^e	1/28	37	11.1	11.0	10.4 ^m
Hart Mountain ^e	1/28	0	0.0	1.1	1.0 ^m
Little Bally Mtn. ^e (Nev.)	1/28	0	0.0	1.3	1.9 ^m
Mt. Bidwell (Calif.)	c			-	-
North Star (Calif.)	c			-	-
Patton Meadows ^e	1/28	36	10.8	14.8	10.8 ^m
Quartz Mountain	1/28	16	4.5	1.8	5.4
Quartz Mountain (Ext.)	1/28	17	5.1	1.6	-
Sherman Valley ^e	1/28	27	8.9	8.7	6.9 ^m
Silver Creek	1/29	13	3.6	1.0	2.9
State Line (Calif.)	1/28	20	5.8	5.2	6.5 ^m
Strawberry	1/29	18	5.1	4.6	5.4 ^h
Summer Rim ^e	1/28	27	8.9	7.0	9.8 ^m
Summer Rim Snow Pillow	c			-	-
Sycan Flat ^e	1/28	17	5.6	3.5	5.7 ^m
Willow Creek ^e	1/28	0	0.0	1.0	2.9

BASIC DATA SUPPLEMENT 1

Feb. 1, 1971

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave.

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave.

HARNEY BASIN WATERSHEDS

Blue Mountain Springs	1/28	48	16.0	18.5	10.4
Blue Mtn. Springs Pillow	1/28	--	8.2	-	-
Buck Pasture ^e	1/27	0	0.0	T	1.6 ^m
Buckskin Lake ^e	1/27	0	0.0	0.0	0.8 ^m
Call Meadows ^e	1/27	24	6.7	6.5	2.1 ^h
Crow Camp ^e	Discontinued			T	1.2 ^m
Delintment Lake	1/27	18	5.3	8.2	5.1 ^h
Denio Creek ^e	1/27	0	0.0	0.0	0.6 ^m
Disaster Peak (Nev.)	c				
Emigrant Butte	1/25	10	5.3	3.8	2.8 ^h
Fish Creek ^e	1/27	48	18.2	22.2	14.4 ^h
Hart Mountain ^e	1/28	0	0.0	1.1	1.0 ^m
Idlewild Camp	1/27	18	5.0	5.3	3.8 ^h
Izee Summit	1/26	23	6.0	8.0	5.7 ^h
Lake Creek R. S.	1/28	33	10.7	11.4	7.0 ^h
Oregon Canyon ^e	1/27	0	0.0	3.4	3.2 ^m
Rock Spring	1/27	20	5.7	5.2	3.8 ^h
Silvies ^e	1/27	10	3.8	7.8	-
Snow Mountain	1/27	35	10.6	12.4	8.6 ^h
Snow Mountain Pillow	1/27	--	11.3	-	-
Starr Ridge	1/26	18	4.8	5.5	4.1 ^h
Stinking Water	2/1	0	0.0	T	2.6 ^h
Trout Creek ^e	1/27	0	0.0	5.4	3.7 ^m
"V" Lake ^e	1/27	4	1.6	3.4	2.5 ^m

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

BASIC DATA SUPPLEMENT 2

Feb. 1, 1971

SOIL MOISTURE

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average ^m
OWYHEE, MALHEUR WATERSHEDS							
Bear Creek (Nev.)	7800	72	16.8	c			
Big Bend (Nev.)	6700	48	16.7	1/27	15.2	12.0	15.6
Blue Mountain Spring	5900	42	16.9	1/28	12.3	9.7	9.2
Crane Prairie	5375	48	18.2	c			
Folly Farm	4450	30	12.5	c			
Jack Creek, Lower (Nev.)	6800	48	8.6	c			
Jordan Valley	4390	48	19.3	1/27	16.6	14.0	- -
Mud Flat (Ida.)	5500	48	12.8	1/27	14.4	14.4	9.9
Rodeo Flat (Nev.)	6800	42	11.0	1/27	7.5	7.6	10.7
Taylor Canyon (Nev.)	6200	48	15.1	1/27	12.5	9.4	13.4
Triangle (Ida.)	5150	48	16.6	c			
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS							
Blue Mountain Summit	5100	36	16.8	1/28	12.5	10.1	9.9
Dooley Mountain	5430	36	9.2	1/25	4.4	6.6	3.4
Emigrant Springs	3925	48	22.3	1/26	21.1	22.0	18.3
Ladd Summit	3730	48	18.9	1/29	12.3	12.2	9.9
Moss Springs	5850	36	25.8	1/28	15.9	14.5	- -
Tollgate	5070	48	23.6	1/28	16.8	17.6	19.7
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS							
Battle Mountain Summit	4340	48	13.8	1/26	13.7	13.8	12.3
Emigrant Springs	3925	48	22.3	1/26	21.1	22.0	18.3
Tollgate	5070	48	23.6	1/28	16.8	17.6	19.7
UPPER JOHN DAY WATERSHEDS							
Battle Mountain Summit	4340	48	13.8	1/26	13.7	13.8	12.3
Beech Creek	4800	48	21.3	1/26	15.5	17.2	12.5
Blue Mountain Springs	5900	42	16.9	1/28	12.3	9.7	9.2
Blue Mountain Summit	5100	36	16.8	1/28	12.5	10.1	9.9
Deer	5670	24	9.0	1/27	8.1	8.7	- -
Marks Creek	4540	36	14.1	1/25	13.3	13.6	10.1
Snow Mountain	6300	48	16.7	1/27	14.0	13.3	13.8
Starr Ridge	5150	36	10.6	1/26	10.6	10.5	9.1
Williams Ranch	4500	42	17.9	1/26	17.8	17.7	17.2
UPPER DESCHUTES, CROOKED WATERSHEDS							
Deer	5670	24	9.0	1/27	8.1	8.7	- -
Marks Creek	4540	36	14.1	1/25	13.3	13.6	10.1
Snow Mountain	6300	48	16.7	1/27	14.0	13.3	13.8
HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS							
Cooper Spur	3490	72	26.4	2/1	14.2	14.1	- -
KLAMATH WATERSHEDS							
Bly Mountain	5090	42	14.0	1/20	11.8	12.4	10.5

BASIC DATA SUPPLEMENT 2

Feb. 1, 1971

SOIL MOISTURE

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average <i>m</i>
LAKE COUNTY, GOOSE LAKE WATERSHEDS							
Camas Creek	5720	42	14.5	1/29	13.2	13.5	11.7
Quartz Mountain	5320	48	15.3	1/28	8.9	10.0	8.3
HARNEY BASIN WATERSHEDS							
Blue Mountain Springs	5900	42	16.9	1/28	12.3	9.7	9.2
Fish Creek	7900	48	15.0	c			
Folly Farm	4450	30	12.5	c			
Silvies	6900	48	16.4	c			
Snow Mountain	6300	48	16.7	1/27	14.0	13.3	13.8
Starr Ridge	5150	36	10.6	1/26	10.6	10.5	9.1
Willow-Bald	5000	24	6.6	1/25	6.6	6.5	5.6

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1953-67 adjusted average. (i) 1953-67, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

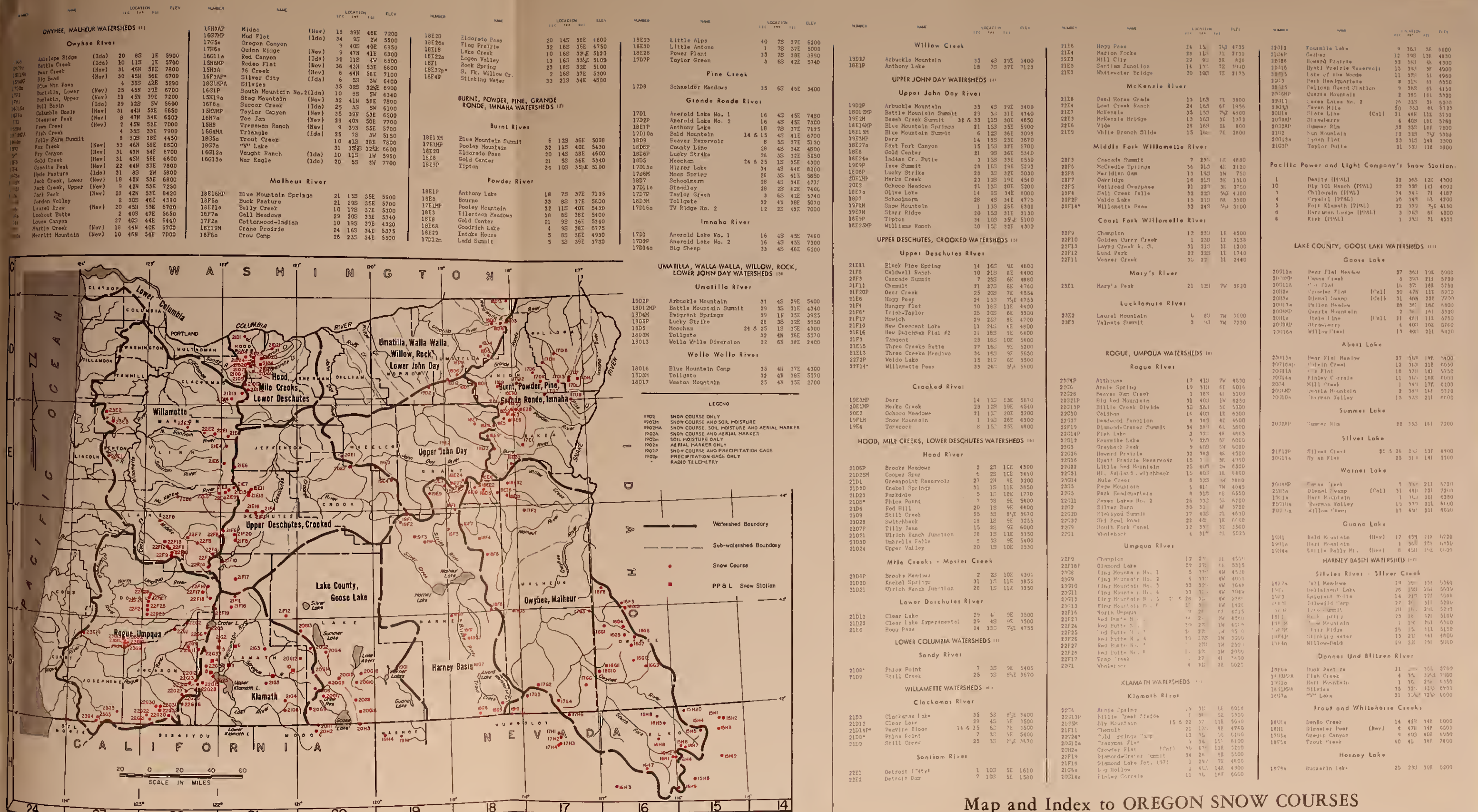
BASIC DATA SUPPLEMENT 3

February 1, 1971

PRECIPITATION (Inches)

DRAINAGE BASIN and PRECIPITATION GAGE LOCATION		CURRENT INFORMATION		PAST RECORD	
		ELEVATION	Date of Reading	Precipitation	Last Year
Allison Work Center (Harney County)	5320	12/1 to 1/28	6.75		
Anthony Lake (Baker County)	7150	12/29 to 1/29	8.30		
Camas Creek (Lake County)	5825	12/31 to 1/29	3.05		
County Line (Umatilla County - Starkey Hdqrs.)	4800	12/31 to 1/29	4.00		
Derr G. S. (Wheeler County)	5800	10/29 to 1/27	14.22		
Dooley Mountain (Baker County)	5200	12/28 to 1/26	3.45		
Fish Lake (Jackson County)	4865	12/31 to 1/28	.53		
Granite Mountain (Grant County)	5900	12/28 to 1/22	6.00		
Quartz Mountain Summit (Lake County)	5530	12/30 to 1/28	2.74		
Silver Creek (Lake County)	4900	12/28 to 1/29	4.48		
Strawberry (Lake County)	5760	9/29 to 1/29	15.85		





Map and Index to OREGON SNOW COURSES

The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE

- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys
- Oregon State University
- Oregon State Engineer and Corps of State Watermasters
- Oregon State Highway Engineers
- Soil and Water Conservation Districts of Oregon

COUNTY

- Douglas County Water Resources Survey

FEDERAL

- Department of Agriculture
 - Cooperative Extension Service
 - Forest Service
 - Soil Conservation Service
- Department of Commerce
 - Weather Bureau
- Department of the Interior
 - Bonneville Power Administration
 - Bureau of Land Management
 - Bureau of Reclamation
 - Fish and Wildlife Service
 - Geological Survey
 - National Park Service
- Department of National Defense
 - Corps of Army Engineers

PUBLIC UTILITIES

- Pacific Power and Light Company
- Portland General Electric Company
- California-Pacific Utilities Company

MUNICIPALITIES

- City of Baker
- City of La Grande
- City of The Dalles
- City of Walla Walla

IRRIGATION DISTRICTS

- Arnold Irrigation District
- Associated Ditch Companies
- Burnt River Irrigation District
- Central Oregon Irrigation District
- East Fork Irrigation District
- Grants Pass Irrigation District
- Hood River Irrigation District
- Jordan Valley Irrigation District
- Juniper Flat Irrigation District
- Lakeview Water Users, Incorporated
- Medford Irrigation District
- Middle Fork Irrigation District
- North Board of Control - Owyhee Project
- North Unit Irrigation District
- Ochoco Irrigation District
- Rogue River Valley Irrigation District
- South Board of Control - Owyhee Project
- Squaw Creek Irrigation District
- Talent Irrigation District
- Tumalo Project
- Vale-Oregon Irrigation District
- Warm Springs Irrigation District

PRIVATE ORGANIZATIONS

- The Crag Rats, Hood River, Oregon

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